

naturally and easily. The experience of past generations makes the acquisition of present experience easier, and so it comes about that we cannot help seeing it. But it is all experience, after all; although learned philosophers, by long, long thinking over the theory of groups and other abstruse high developments, may perhaps come to what I think is a sort of self-deception, and think that their geometry is pre-existent in themselves, whilst nature's is only a bad copy. Like the old Indian pundit, whose name was something like Bhatravistra, who, after fifty years inward contemplation, discovered God;—where—it would not be polite to mention. OLIVER HEAVISIDE.

September 22.

The New Senate of the University of London.

IN your paragraph (NATURE, September 27, p. 543) on the new Senate about to be elected in the University of London, you have put the issue as it has occurred to me. I have not been able to give my support to either of the two bodies which have set their electoral machinery in motion, for the simple reason that neither of them has produced a list of names of candidates in which higher educational work is adequately represented. I thoroughly endorse your remark that "It would be nothing less than a calamity were Convocation to elect sixteen irreconcilables with no idea outside that of introducing the peculiar needs of the external student into all deliberations of the Senate."

The University may boast of the value of the degree; but this is only to say that as an organism its *cell*-life is strong. As an organism, however, its *somatic* life is weak; and the *summation and co-ordination of function* is the main idea for the new Senate of the University to keep before it, if the University is to be a factor of real power in our national and imperial life in the centuries to come. An experience as a teacher of over a quarter of a century (Wellington College and Nottingham) entitles me, I think, to speak on this matter.

Bishop's Stortford, September 28.

A. IRVING.

The Peopling of Australia.

IN the issue of NATURE dated December 28, 1899, there appeared a notice of my book, "Eaglehawk and Crow," from the pen of Prof. A. C. Haddon. A copy did not reach me till the end of February, and for that and other reasons which need not be mentioned I delayed replying to the criticisms passed. With your kind permission I shall now endeavour to meet the principal objections raised to my work, with a desire of advancing, if even in a very small measure, our knowledge of Australian ethnology. All ethnologists are agreed upon the difficulty of the Australian problem, and no one who attempts to solve it will be surprised at their agreement.

I regret that, owing to my omitting to define my use of the term Melanesian, Prof. Haddon misapprehended one of my fundamental positions. In a note on page 5 I say, "Papuan is applied, not in its narrowest application (dark New Guinean), but as the equivalent of Melanesian, and is meant to include the Tasmanian aborigines, &c." From this Prof. Haddon inferred that I excluded the Papuans proper from my Papuan race. Nothing was further from my intention. I included them as a sub-race under the wider term Melanesian, as many writers have done, as even the latest writer on the subject, Deniker, has done in his "Races of Man," page 285, and elsewhere. The basis of my ethnological position may be thus represented:—

Papuan or Melanesian Race.	{	Papuan Proper.
		Malanesian Proper.
		Tasmanian Papuan. { Primitive Australian. Tasmanian.

This classification underlies my whole book. I confess that I would now prefer to restrict the name Melanesian to the Melanesians proper as less liable to ambiguity, but in making Melanesians the general name I followed the lead of others much more competent than I am. That I recognised the narrower application of Papuan is evident from the above quotation from page 5, and such a passage as the following shows that I recognise Melanesians proper. "There are indications of groups of Melanesians having reached Australia on the eastern Queensland coast," page 73. Further, I invariably refer to

the Tasmanians as Papuans, with occasionally some such qualifying word as *primitive*.

My solution of the Australian racial problem having received the approval of Prof. Keane ("Ethnology," pp. 291-2), I may state it briefly here. The now extinct Tasmanians represent the primeval Australian aborigines. They were probably not a pure race, but embraced Negrito and Papuan elements. At the time of their arrival in Australia they probably occupied the islands to the north, and their congeners were the first to occupy Melanesia. Upon the primitive Papuans there was a strong graft of what, for want of a better name, and following the example of others, I have called "Dravidians," using this as a term of convenience to indicate likeness to the people of southern and central India. Then followed a further migration, in a desultory manner, of people of Malay stock; the precise locality whence these came is indeterminable, but I give evidence of distinctly Sumatran influence in the north-west. Concurrently, or subsequently, companies of Melanesians proper and Papuans proper have mingled with the Australians on the north and east of Queensland.

The two earliest immigrations entered Australia from New Guinea or neighbourhood. The population became distributed by streams diverging from the base of Cape York Peninsula.

When allowance has been made for Prof. Haddon's misconception of my use of the term Papuan, there is little more in his notice that needs to be referred to, as he concedes my main positions.

Mr. S. H. Ray, having been invited by Prof. Haddon to offer observations upon the linguistic part of the work, criticised it in a manner which seems to be unnecessarily caustic, fastening attention upon petty points which he objected to, and ignoring the main issues. He begins by asserting that I belong to a school of Australian pseudo-philologists who believe that a likeness of words in sound and meaning is a proof of common origin, and this in spite of my explicit disavowal of such a position, and my exposure of the unsoundness of it on page 44, where I show that on such a principle the Australian languages might be derived from the English. Having made so fair a start with a *petitio principii*, by gross misrepresentation of my statements, he proceeds to buttress his assertion. "We are asked to believe," he continues, "that Malay immigrants, presumably from various parts of the Archipelago, entered Australia from the north, and wandering about the interior, scattered 'astonishing relics' of the speech of one of their sections all over the island continent." He is not asked to believe any such ridiculous nonsense, and it is singularly disingenuous to say so in the face of my sober statements on page 57. "Either the Malay inroad, if made at the north, took place in long past ages, or now and again parties of Malays, either from choice or necessity, landed and became naturalised at various spots on the east, north and west, and modified the speech of the people, first immediately round them, and then landwards": and on page 61, "This last influx (the Malay) may have come by several little rills, entering at places widely apart and gradually losing themselves in the life-lake." The "wandering about the interior" is a pure invention of Mr. Ray's. When the universal practice of exogamy is taken into account, along with the general pressure and movement of people, language, customs, &c., from north to south, my theory of Malay influence on the Australian people and language will be accepted as reasonable by unprejudiced minds. In the *Journal* of the Anthropological Institute for 1894-5, in a paper on "The Languages of British New Guinea," this very Mr. Ray uses language, and language alone, as a basis of classification for proving racial distinctions and affinities and movements. I do not say that this was an improper use of the linguistic argument, but it differs from mine in this, that I rarely rely upon language alone. I back up the linguistic evidence by that of other ethnological characters.

To come to particulars: my identifying a certain type of Australian words for "Head" with the Malay "Kapala" is objected to because "Kapala" is a word of Indian origin. But the word has been current in Malay for five or six centuries, and is in use in that very part of Sumatra from which, according to my hypothesis, came the authors of the best Australian rock-paintings. It is quite possible that I may be mistaken in relating certain Australian words to "Kapala," but Mr. Ray's ground of objection has little or no cogency.

"Mama" and "bapa" are terms for mother and father of

wide currency in Australia. The former I connect with early Papuan influence, the latter more especially with Malay. He objects on the ground that connectives of "mama" are more common in the Malay districts of the Eastern Archipelago than "bapa." But in Australia the word "mama" occurs only in the extreme S.W. and S.E., among the purest modern representatives of the earliest occupants of Australia, thus affording ground for the conclusion that the term "mama" preceded the term "bapa." The wide prevalence of "bapa" forms in other countries I myself refer to on page 44; but the question is, What race was specially influential in giving such forms currency in Australia? As against my position it is not sufficient for Mr. Ray to say that "mama" variants are of more frequent occurrence in Malay centres than "bapa" variants, he will have to prove that the words of "mama" type are not adopted words in Malay, were not earlier in use in the East Indian Archipelago than the other type of words, and are not more markedly Papuan than these.

Mr. Ray complains that individual words in the languages quoted "are not always accurately given or properly understood." This may be; but like himself I am dependent upon my authorities. When further on he suggests that I might have attempted uniformity of spelling in the foreign words, he is like the "children sitting in the market-place." A desire to be free from suspicion of tampering with my borrowed materials kept me from applying to them a uniform system of spelling, and evidently my caution was not unnecessary.

Mr. Ray's harshness is all the more indefensible since he himself falls demonstrably into error on the very point upon which he proposes to correct me. As proof of my mistaking the form and meaning of words, he cites the New Guinea numerals (pp. 165, 169). He says they are explainable compounds. He does not, however, attempt to explain them. But even if they are, this fact alone does not prove that they could not be transmitted to Australia. One feature about Australian numerals is clearly shown in my tables, viz. that they occur geographically in lines that converge on Cape York Peninsula. Some of them are most certainly identical with forms in use on Saibai Island on the New Guinea coast, e.g. "woorba," with variants traceable along the Queensland coast from a point about 1000 miles S.E. of Cape York, and represented in the form "warapune" Prince of Wales Island, "woorapoo" at Warrior Island, and in "urapon" at Saibai. One numeral, "luadi" (two), used by the Kalkadoon tribe, whose territory is about 150 miles south of the Gulf of Carpentaria and some 600 miles S.W. of Cape York, is a Melanesian numeral. It did not fly that distance through the air. And there is just as little doubt about the identity of at least several of the other Australian numerals with the New Guinea forms to which I have related them. My table of numerals was not formed rashly. It will be worth Mr. Ray's while to examine and test it carefully. The convergence of numerals upon Cape York Peninsula is only one striking illustration of what occurs in the case of other words, and words thus traced to the very coast must have come from New Guinea and adjacent islands.

As another example of my misunderstanding words, Mr. Ray refers to my "ori kaiza," pp. 66-7. He says: "Ori kaiza" is mongrel, "ori" (bird) is Toaripi, Papuan Gulf, and "kaiza" (big thing) is Saibai, West Torres Straits. This is, for himself, a most unfortunate example. Although he speaks so authoritatively, he is utterly at fault. Sir W. MacGregor's reports give "uroi" (bird) as a Saibai word; and even Mr. Ray himself, in his paper already quoted from, gives "urui" as Saibai for 'bird,' a fact he appears to have forgotten. Besides, in the "Voyage of the *Rattlesnake*," containing vocabularies obtained in 1849 from a white woman who had been among the natives for four and a half years, McGillivray gives "wuroi" as a Cape York word, and "ure" as a Kowraraga word, both meaning bird. Mr. Ray's assertion, therefore, that "ori kaiza" is mongrel, is contrary to fact, and my tracing of this compound word across Australia from S.W. to N.E., and to the New Guinea coast, is not in the least invalidated by Mr. Ray's groundless and inconsistent statement that the word is mongrel.

Mr. Ray characterises my comparison of Australian words with Malay and New Hebridean as "absurd and misleading." This may be so to one with his pre-conceptions, but certainly not from the point of view which I have taken of the relation subsisting between the races whose words are compared. If the Tasmanians were the original occupants, both of Australia and the greater part of Melanesia, which is my hypothesis, it

is not unreasonable to suppose that certain radicals would be common to Tasmanians, Australians and Melanesians proper. And further, one of the most competent authorities on the Oceanic languages, the Rev. Dr. MacDonald, of Efate, is of opinion that Malay, Melanesian and Polynesian are sister languages derived originally from one mother tongue. If he be right, there would be no absurdity in affirming analogies between Malay and New Hebridean words. But I have included the Malay with a note almost like an apology. I only cite eight Malay words, and the only conclusions I draw concerning the Malay in this connection is "The terms for father, skin, are the same in Malay, Australian and New Hebridean" (page 156).

I would have liked to have shown that the Melanesians proper have had much more influence upon the Australians than Mr. Ray seems to have any conception of, but I have already taken up so much space that I must content myself with saying that this proposition can be successfully maintained, and with your indulgence I hope in a future letter to make good my words. In conclusion, I would just say that I welcome fair and sound criticism based on accurate knowledge for its influence in promoting truth, but mere fault-finding and ridicule can benefit neither authors nor readers. One sentence from my reviewer in the *Saturday Review* may not be out of place here:—"If Mr. Mathew has not proved his theories to the satisfaction of all his readers, it is not from lack of knowledge or scientific methods, but from the imperfection of his materials."

Coburg, Victoria, August 16.

JOHN MATHEW

THE PRESERVATION OF BIG GAME IN AFRICA.

PAST experience in America and South Africa shows how rapidly the teeming millions born of the soil may be shot out. Writers of half a century ago describe on the veldt in South Africa a paradise of varied life, which is now irretrievably lost, through the carelessness and wastefulness of white men. Some species have absolutely disappeared, never to be seen again on the face of the earth. Others are so scarce that it is doubtful whether their power of reproduction can save the race. The fact that an International Conference, attended by delegates from Germany, France, Italy, Portugal and the Congo Free State, on the subject of the preservation of the game from destruction in Africa, met recently in London, under the auspices of our Foreign Office, shows that a widespread interest is now taken in this subject. Let us see how the matter stood previous to the meeting of the Conference—at least as regards British territory.

Excluding the settled parts of South Africa which were outside the purview of the Conference, we may observe, in the first place, that our Foreign Office appears to be thoroughly alive to the urgency of the question in those territories under their jurisdiction. They had enacted game regulations which ought to have been effective for their purpose. A 25*l.* license was imposed upon strangers, and one of 3*l.* upon residents and officials, as a necessary condition of shooting, while the licensees were limited to two specimens in the case of elephants, rhinoceros, hippopotamus, buffalo and giraffe. Fines up to 500 rupees, and imprisonment for two months, were the maximum penalties. Above all, Reserves for the game were defined. Similar regulations to the above were in force in German territory; but let us confine our attention to British East Africa as an example with which I am familiar. Here, on the best feeding grounds, there are vast herds of wildebeest, hartebeest, impala, zebras, gazelles of several species, and in lesser numbers water-buck, giraffes and rhinoceros. All these, and others, may be seen from the windows of the train as it traverses the new Uganda railway, which has now been constructed to a point about two-thirds of the way to Lake Victoria. The Kenia province, which is about 100 miles by 40, has been constituted a game Reserve. Other Reserves have been established in Uganda and British Central Africa. Each of the Foreign Powers engaged